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Docket No. 30012796-IUS (1509-215)

APR 10 2006 PATENT

**THE UNITED STATES PATENT AND TRADEMARK OFFICE**  
**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of	
Inventors: John S. ERICKSON et al.	Confirmation No. 6171
U.S. Patent Application No. 09/941,568	Group Art Unit: 3621
:	
Filed: August 30, 2001	Examiner: F. Backer
:	
For: RIGHTS MANAGEMENT	

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AMENDED BRIEF ON APPEAL573-273-8300

FACSIMILE NUMBER

Further to the Notice of Appeal filed November 14, 2005, and the Notification of Non-Compliant Appeal Brief mailed March 10, 2006, herewith is Appellant's Amended Brief on Appeal. Authorization for payment of the \$500 statutory fee was given on November 14, 2005.

Appellants submit this Amended Brief as a result of the requirements in the March 10, 2006 Notice of Non-Compliant Appeal Brief.

To the extent necessary, Appellant hereby requests any required extension of time under 37 C.F.R. §1.136 and hereby authorizes the Commissioner to charge any required fees not otherwise provided for to Deposit Account No. 08-2025.

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**I. Real Party in Interest**

The real party in interest is Hewlett Packard Development Company, L.P., a Texas limited partnership.

**II. Related Appeals and Interferences**

There are no related appeals and/or interferences.

**III. Status of Claims**

No claims are allowed.

No claims have been canceled.

Claims 1-18 stand rejected on multiple bases under 35 USC §103(a) as being unpatentable over Conant et al. (U.S. Publication No. 2002/0129056 in view of Ginter et al. (U.S. Publication No. 2004/0133793.

**IV. Status of Amendments**

There were no amendments after Final Rejection.

**V. Summary of Claimed Subject Matter**

The claimed subject matter, as set forth in independent claims 1, 9, 10, 12, 13 or 14, substantially relates to a method of and apparatus, or a program on a computer readable medium or storage device for causing a computer medium to determine a right or obligation of an in force contract or agreement at any point in time (page 5, second paragraph, lines 1- 3; page 5, third paragraph, lines 1 and 2; page 7, first full paragraph, last three lines; page 8,

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second full paragraph, last sentence; and page 10, last paragraph, first sentence). A state machine or a state variable of a programmed computer representative of the contract or agreement is created (page 10, second paragraph), with at least some terms of the contract or agreement being represented by a state variable of the state machine that has a status determined by a state variable (page 10, first third paragraph; page 22, first paragraph). The state machine is stored in a memory (page 5, last paragraph; page 7, second paragraph, first sentence; page 11, last paragraph, first and last sentences). The memory electronically stores a plurality of such contracts or agreements (page 6, lines 1 and 2; page 25, first full paragraph, first sentence). The state machine can also be considered a model (page 6, third paragraph, last sentence; page 11, lines 2-4; page 22, lines 1), as set forth in claim 11.

The state machine receives data representative of performance of at least one of the parties of one or more events relevant to the contract or agreement (page 7, second full paragraph, lines 2-4; page 22, third paragraph, first sentence; page 25, second full paragraph, line 1; page 7, last paragraph two full paragraphs; page 24, last full paragraph; page 12, first sentence). A determination is made whether the event results in a change of status of the state machine. If such a change in the state machine occurs, the status of the state machine is accordingly changed. The state of the state machine at a point in time is determined, as is the right or obligation of the contract or agreement from the determined state of the state machine (page 7, second full paragraph; page 22, last two full paragraphs; page 24, last full paragraph; page 25, second full paragraph; page 12, first sentence).

The apparatus includes object-oriented computer language, such that the right or obligation of the contract state machine object includes assertions that the object makes to other objects or systems (page 6, last full paragraph, second sentence). Software components or

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systems receive the right or obligation assertions of a virtual contract and determine and implement the wishes or intentions of the contracts, as required (page 7, lines 6-8).

A kernel is arranged to store a plurality of contract agreements as state machines. Information regarding events relevant to one or more of the contracts is stored. The state of one or more of the state machines is changed, as required according to the performance of at least one of the parties (first full sentence, page 7).

An event queue accommodates external and internal events, i.e., events outside of the contract and events within the contract (page 7, last paragraph, first sentence). Examples of external events include queries or assertions from outside the system, such as queries for authorization for access, or affirmations from payment services that payments have been made. Examples of internal events include the arrival of certain moments of time, for example, a particular length of time from the start of the contract or from the time a particular state or event within the contract has occurred (page 7, last paragraph, second and third sentences).

If the state of the contract or agreement is not changed for a predetermined period of time, the storage arrangement is such that the contract persists in the storage arrangement, to await the occurrence of one or more performance events which affect the behavior or output (page 7, last full paragraph; page 24, second full sentence).

The claimed subject matter can probably be better understood by considering some of the operations described in connection with Figure 1 that includes several boxes, each representing a possible state of a contract between an author and a publisher (page 22, first paragraph). The contract, in written form, is set forth on pages 12-21 of the specification. Figure 1 is a digital dynamic contract model of the contract appearing on pages 12-20, wherein

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the contract is represented as a dynamic state machine "kernel" object (page 22, liens 3 and 4). The dynamic state machine behavior, especially the state transitions within the contract model, is expressed in terms of a logical combination of events and conditions that are in effect within a given state of the contract (page 22, lines 6 and 7). Each of the boxes of Figure 1 represents each of the states and includes a series of events and conditions. The events and conditions in a particular box are in effect when the contract is in a state associated with the particular box (page 22, lines 7-9 full paragraph).

When the contract model of Figure 1 is in initial state 10, the author has granted two sets of rights to the publishing company, namely the right to use the author's name, picture and autobiographical data, (R18), and all right, title and interest in the Work he is to create for the publisher (R1) (page 22, lines 10-14). The author has three obligations, namely to deliver the Work (O5), to deliver key words for the index of the Work (O11), warranties that are set forth in the contract (page 22, lines 14-16). In response to the author meeting his obligation to deliver the Work, the contract and state machine enter first delivery state 12 (page 22, lines 19 and 20). In first delivery state 12, both sets of rights granted by the author to the publishing company are still in force, as are the warranties the author is obliged to follow (page 22, lines 20-22). In other words, as a result of the author fulfilling his obligation to deliver the Work (obligation 5 in initial state 10), the state machine changes status from state 10 to state 12. In state 12, the author still must abide by the warranties of the original contract (O2, O3, O4), but is no longer obligated to deliver the Work. In addition, in state 12, the publisher still has the right to use the author's name, picture and autobiographical data (R18) and still has all right, title and interest in the Work (R1).

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In the unlikely event of the publisher being satisfied with the Work as initially delivered to the publisher by the author, the state machine advances to "done" state 30 in which the contract is terminated and all outstanding rights and obligations have been disposed of, except the author's warranties, set out as obligations O2, O3 and O4 (page 24, last full paragraph). If, however, the publisher is not satisfied with the Work, the state machine advances to the various intermediate states, such as retyping state 14, copy editing state 16, index state 18, etc. depending upon the state machine data representative of the performance of the author and the publisher of the events that are relevant to the contract. In this way, the determined state of the state machine determines the rights or obligations of the parties to the contract at any point in time associated with the execution of the contract.

Hence, the apparatus of claim 1 reads on the specification and drawing since claim 1 is directed to an apparatus for determining a right or obligation of a contract or agreement at any point in time (page 5, second paragraph, lines 1-3; page 5, third paragraph, lines 1 and 2; page 7, first full paragraph, last three lines). The apparatus comprises means in the form of a programmed computer, for creating a state machine representative of the contract or agreement, wherein at least some terms of the contract or agreement are represented as a state variable of the state machine (page 10, second and third full paragraphs; page 22, first paragraph). The means for storing the state machine is a memory, , e.g., structured files or a database (page 5, last paragraph; page 7, second paragraph, first sentence; page 11, last paragraph, first and last sentences (page 6, first full paragraph). A programmed computer including a virtual contract manager is the means for: (a) causing the state machine to receive data representative of performance of at least one of the parties of one or more events relevant to the contract or agreement, (b) determining whether said event changes the status of said state machine, (c)

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changing the status of said state machine if required by the determination, and (d) determining the right or obligation in response to the received data and the status of the state machine (page 5, second full paragraph; page 12, first paragraph; page 22, first paragraph; page 25, second full paragraph; page 8, lines 5-30).

The method of claim 9 relates to a method of determining a right or obligation of a contract or agreement at any point in time (page 5, second paragraph, lines 1-3; page 5, third paragraph, lines 1 and 2; page 7, first full paragraph, last three lines). The method comprises creating a state machine representative of the contract or agreement, wherein at least some terms of the contract or agreement are represented by a state variable of the state machine (page 5, third full paragraph, lines 3-6). The machine is stored (page 5, third full paragraph, line 5; page 5, last paragraph; page 7, second paragraph; page 22, first sentence; page 11, least paragraph). The state machine receives data representative of performance of at least one of the parties of one or more events relevant to the contract or agreement (page 5, third full paragraph, lines 5 and 6; page 22, first paragraph; page 25, second full paragraph; page 12, line 1). A determination is made as to whether the event results in a change of state of the state machine (page 5, third full paragraph, lines 6-8; page 12, lines 1 and 2; page 25, second full paragraph, lines 1 and 2). The status of the state machine is changed accordingly (page 5, third full paragraph, lines 7 and 8; page 12, lines 1-3; page 25, second full paragraph, lines 2 and 3). A determination is made of (a) the state of the state machine at a point in time as required, and (b) the right or obligation of the contract or agreement from the determined state of the state machine (page 5, third full paragraph, lines 8 and 9; page 12, lines 3 and 4; page 25, second paragraph, lines 3 and 4).

The apparatus of claim 10 relates to an apparatus for storing electronically a plurality of contracts or agreements, each having a plurality of possible rights and obligations dependent upon an



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occurrence (or otherwise) of one or more events (page 6, lines 1-3). The apparatus includes means, in the form of a memory of a contract manager (CM) for receiving information relating to one or more events relevant to one or more of the contracts or agreements (page 5, last paragraph; page 6, lines 4 and 5; page 7, second paragraph, first sentence; page 11, penultimate paragraph; page 11, last paragraph, first and last sentences). The contract manager includes means for determining a right or obligation of one or more of the contracts in response to the occurrence (or otherwise) of said one or more events representative of performance of at least one of the parties of one or more events relevant to the contract or agreement (page 6, lines 5 and 6; page 12, lines 1-3).

Claim 11 is directed to an apparatus for determining a right or obligation of an agreement (page 5, second paragraph, lines 1-3; page 5, third paragraph lines 1 and 2; page 7, first full paragraph, last three lines). The apparatus comprises means in the form of a programmed computer for creating a model representing the agreement and having an output state, the model including at least one state variable for representing a term of the agreement (page 6, third and fourth paragraphs; page 8, last two full sentences). A memory, e.g., structured files or a data base, is means for storing the model (page 5, last paragraph; page 7, second paragraph, first sentence; page 8, lines 2 and 3; page 11, last paragraph, first and third sentences). A programmed computer including a virtual contract manager forms means for (a) receiving data relevant to a term of the agreement and relating to a corresponding state variable of the model, the data being representative of performance of at least one of the parties of one or more events relevant to the contract or agreement, (b) entering the data into the model, (c) establishing a consequent output state of the model, and (d) determining the right or obligation in response to the consequent output state of the model (page 12, first paragraph; page 22, first paragraph; page 25, second full paragraph; page 8, lines 5-30).

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Claim 12 concerns a method of determining a right or obligation of a contract or agreement at any point in time (page 5, second paragraph; lines 1-3; page 5, third paragraph, lines 1 and 2; page 7, first full paragraph). The method comprises representing at least some terms of the contract or agreement as a state variable of a computer arrangement, wherein the computer arrangement has a status determined by the state variable (page 8, lines 5-30; page 10, lines 9-18 and 26-29; page 22, first paragraph). The computer arrangement receives data representative of performance of at least one of the parties of one or more elements relevant to the contract or agreement (page 7, second full paragraph; page 21, last two full paragraphs; page 24, last full paragraph; page 12, first sentence). A determination is made as to whether the event changes the status of said computer arrangement. The status of the computer arrangement is changed if required by the determination, and the right or obligation is determined in response to the received data and the status of the computer arrangement (page 7, second full paragraph, page 22; last two full paragraphs; page 24, last full paragraph; page 12, first sentence).

Claim 13 relates to a computer readable medium or storage device storing a program (page 10, second full paragraph) for causing a computer arrangement to determine a right or obligation of a contract or agreement at any point in time (page 6, second full paragraph; page 5, second paragraph; lines 1-3; page 5, third paragraph, lines 1 and 2; page 7, first full paragraph, last three lines). The computer arrangement stores at least some terms of the contract or agreement as a state variable (page 6, last paragraph). The computer arrangement has a status determined by the state variable (page 6, last paragraph, first sentence). The program causes the computer arrangement to (1) receive data representative of performance of at least one of the parties of one or more elements relevant to the contract or agreement (page 7, second paragraph, first sentence); (2) determine whether the event changes the status of said computer arrangement (page 7, second paragraph, first sentence); (3) change

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the status of the computer arrangement if required by the determination (page 7, second paragraph, first sentence); (4) determine the right or obligation in response to the received data and the status of the computer arrangement (page 7, first paragraph, last sentence).

Claim 14 is concerned with a computer arrangement for determining a right or obligation of a contract or agreement at any point in time (page 5, second paragraph; lines 1-3; page 5, third paragraph, lines 1 and 2; page 7, first full paragraph, last three lines). The computer arrangement is arranged for executing the steps of:

1. representing at least some terms of the contract or agreement as a state variable, wherein the computer arrangement has a status determined by the state variable (page 5, second paragraph; lines 1-3; page 5, third paragraph, lines 1 and 2; page 7, first full paragraph, last three lines; page 8, second full paragraph, last sentence; and page 10, last paragraph, first sentence);
2. receiving data representative of performance of at least one of the parties of one or more elements relevant to the contract or agreement (page 7, second full paragraph; page 21, last two full paragraphs; page 24, last full paragraph; page 12, first sentence; page 22, last two full paragraphs);
3. determining whether the event changes the status of the computer arrangement (page 7, second full paragraph; page 21, last two full paragraphs; page 24, last full paragraph; page 12, first sentence; page 22, last two full paragraphs);
4. changing the status of the computer arrangement if required by the determination (page 7, second full paragraph; page 21, last two full paragraphs; page 24, last full paragraph; page 12, first sentence; page 22, last two full paragraphs); and
5. determining the right or obligation in response to the received data and the status of the computer arrangement (page 7, second full paragraph; page 21, last two full paragraphs; page 24, last full paragraph; page 12, first sentence; page 22, last two full paragraphs).

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**VI. Ground of Rejection to be Reviewed on Appeal**

The ground of rejection to be reviewed on appeal is the rejection of claims 1-18 under 35 USC 103(a) as being unpatentable over Conant et al. (US Patent publication 2002/0129056) in view of Ginter et al. (US Patent publication 2004/0133793).

**VII. Argument**

To reject independent claims 1, 9 and 10, the final rejection states, in item 3, pages 3 and 4, that Conant et al. discloses means for receiving data representative of one or more events relative to a contract or agreement and determining whether the event changes the status of the state machine, and changing the status of the state machine if required. However, these comments are irrelevant with regard to claims 1, 9 and 10. In particular, claim 1 requires means for (a) causing the state machine to represent performance of at least one of the parties of one or more events relevant to the contract, (b) determining whether said event, i.e., data representative of performance, changes the status of the state machine, and (c) changing the status of the state machine if required by the determination in response to the data representative of performance of at least one of the parties. Claim 9 requires the state machine to receive data representative of performance of at least one of the parties of one or more events relevant to the contract or agreement. Claim 9 also requires a determination of whether the event that is representative of performance of at least one of the parties and is relevant to the contract or agreement results in a change of state of the state machine. The status of the state machine is changed accordingly, i.e., based, inter alia, on the determination of whether the machine data that are representative of the performance of at least one of the parties of one or

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more events are relevant to the contract or agreement cause a change of status of the state machine.

Claim 10 includes a similar limitation by requiring means for determining a right or obligation of one or more of the contracts in response to the occurrence, or lack of occurrence, of one or more events representative of performance of at least one of the parties of one or more events relevant to the contract or agreement.

In other words, item 3 fails to consider the performance requirements of claims 1, 9 and 10.

Item 3 of the final rejection relies on paragraphs 004, 006, 0025, 0036, 0037, 0040, 0043, 0047 and 0056 of Conant et al. to disclose the means for receiving, means for determining and means for changing the status of the state machine. All of these paragraphs of Conant et al. are concerned with the negotiation process and none of them is concerned with data representative of performance of at least one of the parties of one or more events relevant to the contract or agreement.

Item 3 of the final rejection admits Conant et al. fails to disclose the concept of a right or obligation and determining the right or obligation in response to the received data and the status of the state machine. To overcome this deficiency in Conant et al., item 3 of the final rejection relies on paragraph 1969 of Ginter et al. to disclose the concept of a right or obligation and determining the right or obligation in response to the received data and the status of the state machine. However, this comment ignores the requirements of claims 1 and 9 for determining whether an event representing performance of at least one of the parties changes the status of the state machine and the requirement to determine the right or obligation in

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response to the received data representative of performance and the state machine status. It also ignores the requirement of claim 9 to determine (1) the state of the state machine at a point in time, as required, and (2) the right or obligation of the contract or agreement from the determined state of the state machine which results in the change of the state machine, which in turn is determined by the data representative of performance of at least one of the parties.

The final rejection includes no analysis of independent claims 11-18 but merely states they disclose the same inventive concept as disclosed in claims 1-10. Hence, the final rejection ignores the requirement of claim 11 to enter data representative of performance of at least one of the parties of one or more events relative to a contract or agreement into a model representing an agreement. It also ignores the requirement of claim 11 to establish a consequent output state of the model, as well as the claim 11 requirement to determine the right or obligation of a party to an agreement in response to the model output state. In other words, there is no analysis of the claim 11 requirements for the model output state and the right and obligation of the model to be determined based on the data representative of performance of at least one of the parties of one of more events relevant to the contract or agreement.

The failure to consider claims 15-18 in item 11, page 4 of the final rejection ignores the fact that Conant et al. is concerned with negotiating a contract. As such, the portions of Conant et al. relied on, i.e., paragraphs 004, 006, 0025, 0036, 0037, 0040, 0043, 0047 and 0056, do not deal with a contract or agreement that is in force, as required by claims 16 and 18, because the contract or agreement is being negotiated. Further, the requirements of claims 15 and 17 for the status of the contract or agreement to be determined by the state variable is irrelevant to the negotiations discussed in the relied upon portions of Conant et al. The negotiated contract is always in the same status, i.e., the negotiated status.

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In item 12, pages 5 and 6, of the final rejection, the examiner admits Conant et al. is concerned with a method and apparatus for electronic negotiation of the content of a document. The discussion on page 5 and in the first sentence of page 6 of the final rejection has nothing to do with anything related to performance of at least one of the parties of one or more elements relative to a contract or agreement. The sentences on page 6 of the final rejection that are italicized refer to a series of reports to track risk, revenue, outstanding obligations, work usage and execution of non-standard clauses. The final rejection provides no basis in Conant et al. for the italicized statement.

After a thorough review of Conant et al., the undersigned attorney for appellants found, in the antepenultimate paragraph (paragraph 0075) of Conant et al., some language that is similar to the italicized language. Paragraph 0075, however, does not indicate the data representative of performance are used to determine whether the performance data changes the status of the state machine. Further, paragraph 0075 does not indicate there is a change in the status of the state machine in response to the determination based on contract performance. In addition, paragraph 0075 does not indicate a right or obligation is determined in response to the data representative of a performance and the status of the state machine. Instead, paragraph 0075 indicates the reports are used to inform subscribers, i.e., those who use the negotiation program of Conant et al., about language that is frequently negotiated and to allow the subscribers to refine that language to expedite future negotiations.

The next to last sentence in the paragraph bridging pages 5 and 6 of the final rejection reads: "To the extent that the series of reports are run and generated represent performance of parties involving in the contract negotiation (sic)". Appellants are unable to decipher or

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understand this sentence. In any event, the sentence has no basis from the Conant et al. reference and is irrelevant to the limitations of the independent claims

Dependent claims 2-8 are allowable for the same reasons as those advanced for claim 1, upon which they depend. In addition, the reliance on Conant et al. for many of the features of these claims is incorrect.

For example, claim 2 requires the right or obligation of each of plural contracts or agreements to be determinable concurrently, as required. The analysis of claim 2 fails to consider the rights or obligations of plural contracts.

Claim 3 requires a computer language for realizing the apparatus to be an object-oriented computer language, such that the right or obligation of a contract state machine includes assertions that the object makes to other objects or systems. The final rejection analysis of claim 3 fails to consider the requirement of the claim concerning rights or obligations of a contract state machine object.

The analysis of claim 4 ignores the requirement for software components or systems for receiving the right or obligation assertions of a virtual contract, but refers to receiving the output assertions of a virtual contract.

The final rejection alleges that paragraphs 004, 006, 0025, 0036, 0037, 0040, 0043, 0047 and 0056 of Conant et al. discloses the requirement of claim 7 that requires the contract to be persisted to storage to await the occurrence of one or more events which affect its behavior or output if the state of the contract or agreement is not changed for a predetermined time period. However, an inspection of these paragraphs of Conant et al. fails to find any basis for the conclusion that they meet the requirement of claim 7. Further, the negotiations discussed in



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the relied upon paragraphs of Conant et al. do not deal with changes in the status in a state machine required by a determination based on data representative of performance of at least one of the parties of one or more events relevant to the contract or agreement.

### VIII. Conclusion

The rejection of claims 1-18 based on Conant et al. and Ginter et al. is wrong, inter alia, because of the requirement for a computer arrangement or a state machine to receive data representative of performance of at least one of the parties of one or more elements relevant to a contract or agreement. Based on the data representative of performance of at least one of the parties, a determination is made as to whether the data representative of performance of at least one of the parties changes the status of the computer arrangement or state machine. The status of the computer arrangement is changed if the determination based on the received data requires the status change. The right or obligation is determined in response to the received data and the status of the state machine or computer arrangement.

The computer based negotiation system of Conant et al. primarily relied on by the Examiner simply does not respond to performance by at least one of the parties to one or more events relevant to the contract or agreement. Instead, the Conant et al. system responds to changes made to the proposed contracts during the negotiation phase. The Examiner makes no claim that the Ginter et al. reference resolves the foregoing deficiencies in the Conant et al. disclosure. The reports mentioned at the very end of the Conant et al. specification do not result in changing the status of a contract being performed but are used for analysis purposes in connection with negotiating future contracts.

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The Examiner has failed to even discuss the requirement of claim 11 for data representative of performance of at least one of the parties of one or more events relative to the contract or agreement, which data relates to a corresponding state variable of a model representing the agreement.

The final rejection also fails to consider the requirements of dependent claims 2-4 concerning rights or obligations of the contract or agreement. In addition, the final rejection fails properly to consider the requirement of claim 5 to change the state of one or more state machines as required by data representative of performance of at least one of the parties of one or more events relevant to the contract or agreement.

The final rejection also fails to indicate how Conant et al. meets the requirements of claim 7 which indicates the contract is persisted in the storage means, to await the occurrence of one or more events which affect its behavior or output if the contract or agreement is not changed for a predetermined time period. Further, it is illogical for a computer arrangement involved with contract negotiation to store a negotiated contract in a storage means to await the occurrence of one of more events which affect its behavior or output in response to the contract or agreement not being changed for a predetermined time period.

Conant et al. also does not disclose the requirements of claims 15 and 17, requiring a status determined by a state variable of a contract in which there is receipt of data representative of performance of at least of one the parties to the contracts of one or more events relevant to the contract or agreement. Also, Conant et al. fails to meet the requirements of claims 16 and 18 for the contract or agreement to be in force while making a determination of a right or obligation based on data representative of performance.

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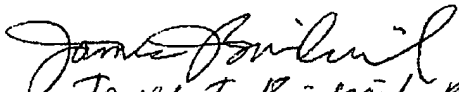
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In view of the foregoing, reversal of the rejection of claims 1-18 is in order.

Respectfully submitted,

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AML:dll

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PATENT**IX. Claims Appendix**

1. Apparatus for determining a right or obligation of a contract or agreement at any point in time, comprising means for creating a state machine representative of said contract or agreement, at least some terms of said contract or agreement being represented as a state variable of said state machine, means for storing said state machine, the state machine having a status, means for: (a) causing the state machine to receive data representative of performance of at least one of the parties of one or more events relevant to the contract or agreement, (b) determining whether said event changes the status of said state machine, (c) changing the status of said state machine if required by the determination, and (d) determining the right or obligation in response to the received data and the status of the state machine.

2. Apparatus according to claim 1, comprising means for storing a plurality of state machines, each representative of a respective contract or agreement, the right or obligation of each said contract or agreement being determinable concurrently as required.

3. Apparatus according to claim 1, wherein a computer language for realizing the apparatus is an object-orientated computer language, such that the right or obligation of a contract state machine object includes assertions that the object makes to other objects or systems.

4. Apparatus according to claim 1, including software components or systems for: (a) receiving the right or obligation assertions of a virtual contract, and (b) determining and implementing the "wishes" or "intentions" of the contracts, as required.

5. Apparatus according to claim 1, comprising a kernel including means for storing a plurality of contract or agreements as state machines, means for receiving information regarding events relevant to one or more of the contracts or agreements, and means for changing the state of one or more of the state machines as required according to said event.

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6. Apparatus according to claim 5, comprising an event queue for accommodating "external" and "internal" events.

7. Apparatus according to claim 1, wherein if the state of a contract or agreement is not changed for a predetermined period of time, the means for storing is arranged so the contract is persisted in the storage means, to await an the occurrence of one or more events which affect its behaviour or output.

8. Apparatus according to claim 1, further including a virtual contract manager arranged so that upon initialization, virtual contracts are registered with the virtual contract manager such that the virtual contracts can subscribe to events that affect their behaviour to the right or obligation at any given time.

9. A method of determining a right or obligation of a contract or agreement at any point in time, the method comprising the steps of:

creating a state machine representative of said contract or agreement, at least some terms of said contract or agreement being represented by a state variable of said state machine, the state machine having a status;

storing said state machine;

receiving at said state machine data representative of performance of at least one of the parties of one or more events relevant to said contract or agreement;

determining whether said event results in a change of state of said state machine;

changing the status of said state machine accordingly; and

determining (a) the state of said state machine at a point in time as required, and (b) the right or obligation of said contract or agreement from the determined state of the state machine.

10. Apparatus for storing electronically a plurality of contracts or agreements, each having a plurality of possible rights and obligations dependent upon an occurrence (or otherwise) of one or more events, means for receiving information relating to one or more events relevant to one or more of said contracts or agreements, and means for determining a right or obligation of one or more of said

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contracts in response to the occurrence (or otherwise) of said one or more events representative of performance of at least one of the parties of one or more events relevant to the contract or agreement.

11. Apparatus for determining a right or obligation of an agreement, comprising:  
means for creating a model representing the agreement and having an output state, the model including at least one state variable for representing a term of the agreement;  
means for storing the model; and  
means for (a) receiving data relevant to a term of the agreement and relating to a corresponding state variable of the model, the data being representative of performance of at least one of the parties of one or more events relevant to the contract or agreement, (b) entering the data into the model, (c) establishing a consequent output state of the model, and (d) determining the right or obligation in response to the consequent output state of the model.

12. A method of determining a right or obligation of a contract or agreement at any point in time, comprising:  
representing at least some terms of said contract or agreement as a state variable of a computer arrangement, the computer arrangement having a status determined by the state variable;  
causing the computer arrangement to receive data representative of performance of at least one of the parties of one or more elements relevant to the contract or agreement;  
determining whether said event changes the status of said computer arrangement;  
changing the status of said computer arrangement if required by the determination, and  
determining the right or obligation in response to the received data and the status of the computer arrangement.

13. A computer readable medium or storage device storing a program for causing a computer arrangement to determine a right or obligation of a contract or agreement at any point in time, the computer arrangement storing at least some terms of said contract or agreement as a state variable, the computer arrangement having a status determined by the state variable, the program causing the computer arrangement to:

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receive data representative of performance of at least one of the parties of one or more elements relevant to the contract or agreement;

determine whether said event changes the status of said computer arrangement;

change the status of said computer arrangement if required by the determination; and

determine the right or obligation in response to the received data and the status of the computer arrangement.

14. A computer arrangement for determining a right or obligation of a contract or agreement at any point in time, the computer arrangement being arranged for executing the steps of:

representing at least some terms of said contract or agreement as a state variable, the computer arrangement having a status determined by the state variable;

causing the computer arrangement to receive data representative of performance of at least one of the parties of one or more elements relevant to the contract or agreement;

determining whether said event changes the status of said computer arrangement;

changing the status of said computer arrangement if required by the determination; and

determining the right or obligation in response to the received data and the status of the computer arrangement.

15. The apparatus of claim 1, wherein the status is determined by the state variable.

16. The apparatus of claim 1, wherein the contract or agreement is in force.

17. The method of claim 9, wherein the status is determined by the state variable.

18. The method of claim 9, wherein the contract or agreement is in force.

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**X. Evidence Appendix**

None.

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**XI. Related Proceedings Appendix**

None.

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